

THE SACRAMENTO BEE



Viewpoints: Fracking boom could increase California's earthquake risk

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It destroyed more than a dozen homes, injured people and damaged a key highway. But the earthquake that struck near Prague, Okla., in 2011 didn't just harm one community. This magnitude 5.7 quake shook up people's peace of mind across the whole state, which was not known for seismic activity.

That has changed: Oklahoma is now earthquake country, thanks to the oil and gas industry. A recent study from the U.S. Geological Survey found that the Prague quake appears to be tied to the proliferation of hydraulic fracturing, or fracking, in the state.

In fact, scientific research is tying swarms of earthquakes across the country - from Ohio to Texas - to oil companies' injection of wastewater from fracking into underground wells. Scientists have concluded that the injection of oil and gas wastewater can reduce the natural friction pinning faults in place and trigger earthquakes.

And the risk is growing here in California, according to a new collaborative analysis by my organization - the Center for Biological Diversity - and Earthworks and Clean Water Action.



Richard Vogel / The Associated Press
Pumpjacks operate at the Inglewood oil fields in Los Angeles. A new analysis has found that oil companies are increasing California's earthquake danger by injecting billions of gallons of oil and gas wastewater a year into hundreds of disposal wells near active faults around Los Angeles, Bakersfield and other cities.

Our report, "On Shaky Ground: Fracking, Acidizing, and Increased Earthquake Risk in California," found that millions of Californians live in areas We found that oil companies are increasing California's earthquake danger by injecting billions of gallons of oil and gas wastewater a year into hundreds of disposal wells near active faults around Los Angeles, Bakersfield and other major cities.

The analysis also revealed that there are more than 800 of these wells near

recently active faults, including hundreds along the San Andreas Fault.

And a fracking boom in California would worsen the danger of earthquakes, we found, by greatly increasing oil wastewater production and underground injection.

To understand how this problem might grow in the near future, you have to know one key ratio: Oil fields in California typically produce about 15 gallons of wastewater for every gallon of oil, according to the state Department of Conservation.

Oil companies have been salivating over the vast amounts of oil they believe they can extract from the Monterey shale, a previously inaccessible shale oil deposit that runs from Northern California down to Los Angeles.

If the oil industry is successful and fracking surges, California will suffer a host of environmental challenges, including air pollution, drinking water contamination and fracking fluid spills. They've already happened in other states where fracking has boomed. Efforts to fight climate change will also be undermined by the vast carbon and methane pollution unleashed by extracting billions of barrels of oil.

Adding to these harms, extracting the Monterey shale's oil could produce almost 9 trillion gallons of contaminated wastewater, which could expose California to a surge in damaging earthquakes like those seen in Oklahoma, Texas and other states experiencing rapidly increased fracking and wastewater production.

But it gets worse. State officials have not looked at whether existing injection wells and fracking operations may have already triggered earthquakes. The increased earthquake risk from California's existing wastewater injection wells and fracked wells is unstudied. And state oil regulators require no seismic monitoring near wastewater injection wells.

Because of research and knowledge gaps and inadequate monitoring, state officials cannot protect Californians from induced quakes.

Keep in mind: Many areas outside California where fracking and underground wastewater disposal have proliferated have suffered a more than tenfold increase in quake activity.

Given the earthquake danger linked to wastewater disposal, as well as unconventional oil production's other environmental risks, the best way to protect Californians is to halt hydraulic fracturing, acidizing and other dangerous oil and gas recovery techniques.

Here in California and across the country, we need to nip this danger in the bud by stopping oil and gas companies from producing these huge volumes of wastewater.

A fracking boom, it turns out, could destabilize the very foundation of our state - and that's a price Californians should not have to pay.